

Comments on Flexi-Ramp Straw Proposal
Department of Market Monitoring
November 15, 2011

This document provides comments by the Department of Market Monitoring (DMM) on the ISO's Flexi-Ramp Products straw paper and stakeholder presentation.¹

Available Supply for Flexible Ramping

The draft proposal states that "The ISO will only procure flexible ramping from the resources that put bids on the flexible ramping products" (Straw paper p.7). Based on the discussion at the stakeholder meeting, it was somewhat unclear if the ISO would count additional ramping capacity that is bid into the real-time energy market as being available to meet the demand for flexible ramping.² If the ISO does not intend to count ramping capacity that is available and bid into the real-time market as being available to meet the flexi-ramp requirement, DMM suggests that a "must-offer" requirement for resource adequacy units similar to that for energy and ancillary services should be considered.

Limitations of Release of Ramping Capacity Procured

The ISO has indicated that ramping capacity reserved for flex-ramp would be "reserved" and would only be released for dispatch in RTD when the demand for incremental energy increased significantly above the demand for such energy projected in the RTPD run (Straw paper pp 10-11). DMM is concerned about this feature and suggests that this constraint may need to be modified (relaxed) based on actual experience.

The flexible ramping capacity is intended to be used in 5-minute RTD market. In real time, it will be procured in RTPD on a 15-minute basis utilizing a 10-minute ramp capability. There will also be a requirement in RTD to retain some of the procured capacity for future intervals. This makes the deployment, release, and protection in RTD a complex issue. As some flexible ramping capacity is deployed and released by prior RTD runs, there may not be enough flexible ramping capacity left to meet the requirement for subsequent (non-binding) intervals in the current or subsequent RTD runs. Because of the multi-interval optimization in RTD, scarcity of the flexible ramping requirement in non-binding intervals can manifest itself in the energy price in the binding interval.

The impact of retaining ramping capacity beyond the more immediate intervals on scarcity in those intervals and in the binding interval energy price should be undertaken before proceeding. One potential alternative to consider is applying the constraint only for several subsequent non-binding intervals that correspond to the most immediate intervals where the ramping energy will be needed.

¹ Flexible Ramping Products Straw Proposal, November 1, 2011,
<http://www.caiso.com/Documents/FlexibleRampingProductStrawProposal.pdf>

Flexible Ramping Products and Cost Allocation Straw Proposal, Presentation, November 7, 2011,
http://www.caiso.com/Documents/Presentation-FlexibleRampingProductMeeting_Nov_7_2011.pdf

² The ISO clarified that units submitting flex-ramp bids would not get special compensation for flex-ramp. However, it was less clear whether or not the extra ramping capacity from such units (above their projected schedule in the RTPD run) would be counted towards meeting the flex-ramp requirement.

This would alleviate some pressure to preserve capacity for a far-off interval that would be re-optimized by a subsequent RTPD run in any event.

HASP vs. RTD

DMM is also concerned about the impact that the high level of manual load adjustments often made in HASP may have on flex-ramp prices and awarded schedules. The ISO's proposal seems to assume that the only difference in the RTPD run and the RTD runs are "uncertainties". In practice, results for the first RTD run corresponding to each HASP/RTPD run are likely to be greatly impacted by load biasing done in the HASP/RTPD runs. DMM expressed a similar concern in its comments on the flex-ramp constraint.

Specification of Requirement and Manual Intervention for RTPD/RTD

The ISO proposal did not include explicit formulas for the calculation of the ramping requirement. DMM understands that several system and resource conditions may determine the requirement and looks forward to reviewing the formulation for the procurement target.

DMM also understands from the proposal that there will be opportunity for ISO Grid Operators to apply manual adjustments to the ramping requirement should they feel the calculated amount is not consistent with current system needs. This feature may have a significant impact on short-term commitment, changes in MSG configurations, and market prices. DMM recommends the ISO put in place procedures for determining appropriate adjustments, require such adjustments are recorded separately from the calculated requirement in an electronic data base, and require logging of the purpose for the adjustment.

Opportunity Cost

DMM does not agree with the ISO's position that if a resource receives a payment for flexi-ramp that includes opportunity cost components, and is then dispatched in RTD, that there is not "double payment" (November 7 presentation, p. 12). While the opportunity cost of not selling ancillary services may be valid, the nature of the flexible ramping product contradicts the principle of paying an opportunity cost for not selling energy.

At the November 7 meeting, the ISO also asked that in comments of the ISO's proposal, respondents explain why the flex-ramp product may differ from other ancillary services (spin and non-spin) that currently receive a payment that is comprised of a capacity price and an opportunity cost and also receive an energy payment when dispatched for real-time energy. DMM notes that units providing these ancillary services are dispatched very rarely. In contrast, the fundamental assumption of flexi-ramp product is that the capacity is frequently needed for dispatch in RTD to alleviate shortages in ramping energy and hence resources providing this service will frequently be dispatched in RTD. The purpose of opportunity cost is to compensate a supplier for foregone revenue due to the capacity reservation. Being dispatched for energy in RTD provides these resources the opportunity to receive at least their bid price for the energy dispatched. The primary element that may reduce frequent dispatch of flexible ramp is the cross-interval reservation. Further, resources may be more likely to be limited in their RTD dispatch (and opportunity for energy revenue) by their 5-minute ramping capability compared to the 10-minute ramping limitation that is applied in RTPD when flexible ramping capacity is procured. If flex-ramp capacity is rarely dispatched then DMM believes that the ISO would be over-procuring this product and the requirement (and/or dispatch criteria) should be adjusted accordingly.

Market Power Mitigation

Once the ISO provides more details of the amount of flex-ramp it may procure and other aspects of this product, the ISO will need to consider if any form of mitigation is necessary and appropriate. At a minimum, DMM envisions that the ISO would need to impose some bid or price cap as it does with ancillary services. Due to the higher level of “temporal” market power that may exist in RTPD, a lower cap may be needed. However, this can only be assessed once more details of the amount of flex-ramp it may procure and other aspects of this product are determined.

Day-ahead Procurement

The ISO has indicated that in the next phase of this process it will provide details on how flex-ramp may be procured in the day-ahead market. DMM views this as potentially problematic due to the uncertainty when procuring in the day ahead as to whether or not the resource will be in a position to deliver when in real time. DMM looks forward to reviewing details when they are provided by the ISO.

Meeting ramping needs is a common operational issue, and similar efforts may have been undertaken by other grid operators, for example, the ramping management initiative at the Midwest ISO. Review of other similar efforts may provide useful additional industrial information on the issue.